

REMARKS

Initially, the applicants note and thank the Examiner for the withdrawal of the prior restriction requirement as well as the examination of all claims presented in the application.

The applicants have amended the claims in order to overcome the objections and rejections raised by the Examiner in the Office Action of 12 October 2007. In particular, claim 4 has been amended to correspond with the terminology used in parent claim and therefore provide for proper antecedent basis. Further, claim 9 has been canceled and claims 10-12 have been amended to correct English language informalities. Moreover, claims 8 and 9 have been canceled and claims 7, 10 and 11 have been amended to properly depend from a parent method claim and therefore be of proper dependent form. Finally, claim 1 has been amended to remove the indefinite language noted by the Examiner.

In light of the above noted amendments, it is respectfully requested that:

the objections to claims 4 and 9-12 be withdrawn;

the objections to claim 7-11 under 37 CFR 1.75(c) be withdrawn; and

the rejection of claim 1 under 35 USC 112, second paragraph be

withdrawn.

Claims 1-18 have been rejected by the Examiner under 35 USC 103(a) as being unpatentable over Tojo in view of Hartmann and alternatively as being unpatentable over Tojo in view of Hartmann as evidenced by Hodgson or Holt.

The applicants have amended the claims to clearly define the invention and to overcome these rejections. In particular, claim 1 has been amended to include the limitation previously found in claim 14 that the catalytically activated

combustion surface comprises one or more layers of wire screen. Similarly, claims 16 and 18 have been amended to more clearly define the method according to the present invention and also now include the limitation previously found in claim 14 regarding the catalytically activated combustion surface comprising one or more layers of wire screen.

Further, as noted above claims 8 and 9 have been canceled, claims 7, 10 and 11 now depend from method claim 16, claim 17 has been canceled and claim 19 has been added to include the objectionable limitation previously found in claim 1 (i.e. the oxygen-containing stream is air or exhaust gases).

It is respectfully submitted that the present invention, particularly as set forth in the amended claims is patentably distinct from the references cited by the Examiner. In particular, the Examiner has cited Tojo as disclosing an apparatus comprising an electrolyte aerosol removal unit (14 of Fig. 1 in Tojo) but recognizes that Tojo fails to disclose the catalytic unit of the present invention. Therefore the Examiner relies on Hartmann as disclosing a catalytic unit for disposing of hydrogen and concludes that the combination of Tojo and Hartmann renders the present invention obvious. These statements and conclusions are respectfully traversed for at least the following reasons.

Contrary to the Examiner's statements, Tojo does not teach or suggest the aerosol removal unit of the present invention. In fact, nowhere does Tojo mention an aerosol component of the treated stream whatsoever. Rather, component 14 of Fig. 1 in Tojo is specifically referred to as HF absorber and used specifically to remove HF from the cathode side of fluorine gas generator (see in particular paragraph 0030 of Tojo). This is contrary to the present invention that uses an aerosol removal unit to remove carbon dioxide and water vapor from the hydrogen-rich stream (see in particular paragraph 0028 of the

present specification). While it is noted that an added advantage of using soda lime in the aerosol removal unit is the removal of some HF, it is also noted that such is not a strict requirement and further that the presence of HF in the stream is not an impediment to the operation of the catalytic unit (see in particular paragraphs 0028 – 0035 of the present specification).

Contrary to the Examiner's statements, the catalytic unit 6 of Hartmann is not positioned in the forced convection duct 20, but rather is attached to the electrolytic cell 1 through a conduit 20. This is very different from the requirements of the present invention, as clearly defined by the present claims and as clearly depicted at least Fig. 2 and Fig. 3 of the present application.

The catalytic unit of Hartmann clearly represents a closed loop recirculation unit having air injected therein. The catalytic unit of 6 also represents a packed bed of platinum or palladium, possible mixed with aluminum oxide (see col. 4, lines 34-43 of Hartmann). Therefore, Hartmann requires more expensive apparatus and materials than those used in the present invention. In particular, the present invention comprises an open ventilation system utilizing the plant exhaust system, e.g. not a closed loop and not requiring air injection. Further, because of the utilization of wire screen for the combustion surface, the present invention uses considerably less precious metal material than the packed beds of Hartmann.

The mere fact that both Tojo and Hartmann may have electrolytic reactors is not enough to create the impetus for combination suggested by the Examiner. Rather, there is no teaching whatsoever in either Tojo or Hartmann that would enable the combination suggested by the Examiner.

In light of the above reasons, it is respectfully submitted that even if Tojo and Hartmann could be combined as suggested by the Examiner, that such combination would still fail to teach or suggest the particular limitation and arrangement of the present invention as expressed in amended claim 1.

With respect to claim 2, the statements of the Examiner that "the apparatus of Tojo appears to be modular" has no basis in anything actually presented in the Tojo reference.

With respect to claim 3, portability provides significant advantages for operation of the present invention and is certainly not contemplated by either Tojo or Hartmann.

Each of claims 4-6 depends from claim 1 and is patentably distinct from Tojo or the combination of Tojo and Hartmann for the reasons noted above.

As noted above claims 7, 10 and 11 now depend from method claim 16 and the comments of the Examiner with regard to these claims will be responded to when discussing the rejection of claim 16. Further, as noted above claims 8 and 9 have been canceled and further discussion thereof is considered moot.

Claims 12 depends from claim 1 and is patentably distinct from Tojo or the combination of Tojo and Hartmann for the reasons noted above.

With respect to claim 13, mounting the aerosol removal unit and the catalytic unit on top of the fluorine generator provides significant advantages in space utilization as noted in the present specification and is certainly not contemplated by either Tojo or Hartmann.

With respect to claims 14 and 15, as noted above, the limitation previously found in claim 14 regarding the use of wire screen as the catalytically activated combustion surface is now found in claim 1 and the advantages thereof are noted above. Further, the Examiner has not found such limitation in either Tojo or Hartmann and statements to the effect that Hartmann "is not limited as to the form or shape of the catalytically activated combustion surface" are not persuasive. Initially, the Examiner can not simply expand the description of the prior art to whatever meets his needs in the absence of some specific teaching. Such supposition is clearly an instance of impermissible hindsight. Further, Hartmann does in fact limit the form and shape of the combustion surface to a platinum or palladium bed as noted above. Finally, The citation of Holt does not overcome this deficiency. Rather, the Examiner's interpretation of Holt is so stretched as to be nearly incomprehensible. While Holt does disclose catalyst materials and suggests that such can be mechanically pressed onto a base structure comprising a metal screen welded to a metal sheet to form electrodes, this simply has nothing to do with the screen materials of the present invention used for catalytic removal of hydrogen. There is no basis whatsoever for the combination being hinted at by the Examiner.

As noted above, claim has been canceled.

With respect to claims 16 and 18, the Examiner again relies on the combination of Tojo and Hartmann to find obviousness of the present invention. The reasoning provided by the Examiner is essentially the same as that used for the rejection of claim 1 and therefore fails for the same reasons noted above.

Claims 7, 10 and 11 now depend from claim 16 and are patentably distinct from Tojo or the combination of Tojo and Hartmann for the reasons noted above.

It is respectfully requested that the rejection of claims 1-18 under 35 USC 103(a) as being unpatentable over Tojo in view of Hartmann and alternatively as being unpatentable over Tojo in view of Hartmann as evidenced by Hodgson or Holt be reconsidered in light of the above remarks and withdrawn.

In light of the above amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and further action consistent therewith is respectfully requested.

Respectfully submitted,

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